



DO THE JOB RIGHT.

Material Safety Data Sheet

Manufactured For:
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II. COMPOSITION/INFORMATION ON INGREDIENTS - (EXPOSURE LIMITS - SEE SECTION VIII)

INGREDIENT NAME	CAS #	%
Ethylene Sulfate	7727-43-7	25.01 - 30.00
1,3,5-Triglycidyl Isocyanurate (TGIC)	2451-62-9	1.01 - 5.00
Copper	7440-50-8	1.01 - 5.00
Zinc	7440-66-6	1.01 - 5.00
Carbon black	1333-86-4	0.10 - 1.00

If ingredient percentages do not total 100%, the balance is due to rounding or applies to ingredient(s) deemed nonhazardous under 29 CFR 1910.1200 (Hazard Communication Standard).

III. HAZARDS IDENTIFICATION

	HMIS
HEALTH	2 *
FLAMMABILITY	1
REACTIVITY	0

0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Effects

Routes of Entry:

Inhalation, Ingestion, Skin contact, Eye contact.

Medical Conditions Aggravated:

Eye disease, Skin disease including eczema and sensitization, Liver disease, Lung disease, Kidney disease.

Immediate (Acute) Health Effects:

Low to moderate airborne particulate concentrations may induce respiratory irritation and/or aggravate pre-existing respiratory problems, even in the absence of a toxic component. High airborne particulate concentrations may also reduce visibility, cause injury to the skin or mucous membranes by chemical or mechanical action or by rigorous skin cleansing procedures needed for their removal. Dermatitis and sensitization may occur in susceptible individuals.

Inhalation:

Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. Loss of appetite. Nosebleeds. This product may cause metal fume fever with resulting flu-like symptoms. Harmful. Can cause systemic damage, see target organs below.

Skin Contact:

Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Eye Contact:

Contact with the eyes may cause moderate to severe eye injury. Eye contact may result in tearing and reddening, but not likely to permanently injure eye tissue. Temporary vision impairment (cloudy or blurred vision) is possible.

Skin Absorption:	No known absorption hazard in normal industrial use.
Ingestion:	Toxic if swallowed. May cause target organ failure and/or death. Can cause abdominal discomfort, nausea, vomiting and diarrhea.
Target Organ Acute Toxicity:	Eyes, Respiratory System, Skin, Liver, Kidneys, Bone Marrow, Cardiovascular System, Lymphatic System.
<u>Long-Term (Chronic) Health Effects:</u>	
Inhalation:	Inhaling sufficiently high quantities of any dust can cause physiological changes in lung tissue, even in the absence of toxic components. No effects are expected when exposures are maintained below limits given elsewhere in this MSDS. Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
Skin Contact:	Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage. Prolonged contact with this product may cause allergic skin sensitization reactions.
Eye Contact:	Upon prolonged or repeated contact, can cause moderate to severe eye injury. Eye contact may result in tearing and reddening, but not likely to permanently injure eye tissue. Temporary vision impairment (cloudy or blurred vision) is possible.
Skin Absorption:	Upon prolonged or repeated exposure, no hazard in normal industrial use.
Carcinogenicity:	IARC: Yes NTP: No OSHA: No
Target Organ Chronic Toxicity:	Respiratory System, Eyes, Skin, Liver, Kidneys, Lymphatic System.
	This product contains pigments which may become a dust nuisance when removed by abrasive blasting, sanding or grinding.

Tests with powder containing less than 7% TGIC showed no toxic effects after long-term exposure at higher concentration well above the recommended exposure limit of 0.08 mg/m³. In powder coatings, the extent of cross linkage determines the concentration of free TGIC. Crosslinking with polyester strongly limits bioavailability. Animal studies show that overexposure to pure TGIC can result in toxic effects to blood, testes, possible effects on liver and lungs, and possible adverse male reproductive effects. Some studies showed laboratory animal somatic cell and male germ cell chromosomal defects are possible. However, respiratory lesions and systemic toxicity were absent at low TGIC concentration, and inhalation tests also showed no observable effects on mice overall health or spermatogonia after short-term exposure at lower doses. Prolonged or repeated contact may cause skin sensitization in some individuals. Not carcinogenic via oral administration or via skin contact in animal tests.

IV. FIRST AID

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.
Eyes:	Immediately flush eyes with plenty of luke warm water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician.
Skin Contact:	Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.
Ingestion:	Seek medical advice immediately. Provide ingredients information from Section II of this MSDS to the medical care provider. Contact your local Poison Control Center (listed in the telephone book), or dial the local "Emergency" (911) number for additional information. Do not induce vomiting unless instructed to do so by a physician or other competent medical personnel. Never give anything by mouth to an unconscious person.

V. FIRE FIGHTING MEASURES

Flash Point:	N/A
Autoignition Temperature:	N/A
Lower Flammable/Explosive Limit, % in air:	25 - 70 g/m ³

General Hazard:

Dusts can form an explosive or flammable mixtures with air. Ignitable bulk powder has an HMIS/NFPA flammability rating of 1. The same material dispersed in air at a concentration between its explosive limits has an HMIS/NFPA flammability rating of 4. Ignition may be initiated by hot surfaces, open flames or electrical sparks. This product, when dried or cured, may support combustion when subjected to sources of ignition or heat in sufficient amount.

Fire and Explosion Hazards:

Bulk powder in storage or being transferred in closed containers has an HMIS/NFPA flammability rating of 1. If this material is transferred into a process or dispersed in a powder coating application where concentrations can reach the explosive limit, the HMIS/NFPA flammability rating is 4. Dusts of sufficient concentrations can form explosive mixtures with air. During a fire, irritating and toxic gases may be generated during combustion or decomposition.

Extinguishing Media:

Small Fires : Foam, carbon dioxide, dry chemical or water spray.

Large Fires : Foam, water spray or fog.

Fire Fighting Instructions:

Liquid material will not burn, no special instructions available. Use methods appropriate for surrounding materials. For dried paint or dried organic coating fires, use methods appropriate for wood, paper and similar combustibles.

Hazardous Combustion Products:

Carbon dioxide, Carbon monoxide, Nitrogen containing gases, Aldehydes, Hydrogen.

VI. ACCIDENTAL RELEASE MEASURES**Health Consideration for Spill Response:**

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section VIII of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including: the material spilled, the quantity of the spill, and the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Spill Mitigation Procedures:

Use vacuum equipment approved for use in collecting dusts from hazardous locations. Vacuum lines should be conductive and capable of being grounded. If sweeping, sweep carefully to minimize dusting. (If this product contains aluminum as an ingredient in Section II of this MSDS, do not use water to minimize dusting. Use compound/moisture for other powders to reduce dust.) Fine particulate can cause a fire or explosion. Remove all sources of ignition and use spark free tools.

Uncontaminated material may be scooped up for reuse. If discarded, material should be placed in a receptacle for disposal in accordance with local, state and Federal regulations.

Air Release:

Ventilate the area by opening door and/or turning on fans and blowers.

Water Release:

Retain all contaminated water for treatment.

Land Spills:

Avoid runoff into storm sewers and ditches that lead to waterways.

VII. HANDLING AND STORAGE**Handling:**

Harmful or irritating; avoid overexposure to the material. Use only in a well ventilated area. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Minimize dust generation and accumulation. Do not get in eyes, on skin and clothing. Use spark-proof tools and explosion-proof equipment. Ground and bond containers when transferring material. May form flammable dust-air mixtures Guard against dust accumulation of this material. Remove contaminated clothing and wash before reuse. Store in a cool, dry place. Handling can create explosive dust clouds. Eliminate ignition sources. Use explosion proof electrical equipment. Ground process equipment in order to reduce sparking. Isolate from incompatible materials. Keep containers tightly closed.

Storage:

Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Store in a cool dry place. Keep away from heat, sparks, and flame. Keep container closed when not in use.

VIII. ENGINEERING CONTROLS, PERSONAL PROTECTIVE EQUIPMENT, AND EXPOSURE LIMITS**Engineering Controls:**

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure. See table at the end of this Section VIII below for exposure limits. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Engineering controls must be designed to meet any relevant OSHA chemical specific standards in 29 CFR 1910. Explosion proof exhaust ventilation should be used.

Protective Equipment:**Respiratory Tract:**

If general or local exhaust ventilation is not available or sufficient to reduce exposure to below acceptable levels, then respiratory protection is required to avoid overexposure when handling this product.

Eyes:

Wear safety glasses with side shields when handling this product. When the possibility exists for eye contact with splashing or spraying liquid, or airborne material, wear additional eye protection such as chemical splash goggles and/or face shield. Do not wear contact lenses. Have an eye wash station available.

Skin:

Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Protective Clothing:

Wear chemically resistant gloves and apron. (Consult your safety equipment supplier).

CHEMICAL NAME	CAS #	ACGIH TLV	OSHA PEL	IDLH
Barium Sulfate	7727-43-7	10 mg/m3 TWA	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)	Not determined.
1,3,5-Triglycidyl Isocyanurate (TGIC)	2451-62-9	0.05 mg/m3 TWA	No PEL established	Not determined.
Copper	7440-50-8	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists, as Cu)	0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)	100 mg/m3 IDLH (dusts and mists)
Zinc	7440-66-6	No TLV	No PEL established	Not determined.
Carbon black	1333-86-4	3.5 mg/m3 TWA	3.5 mg/m3 TWA	1750 mg/m3 IDLH

Since particulates (nontoxic dusts) are expected to produce no health effects when airborne concentrations are maintained below the following limits:
 OSHA PEL = 5 mg/m3 (respirable fraction); 15 mg/m3 (total dust); ACGIH TLV = 10 mg/m3 (total particulates.)

IX. PHYSICAL DATA**Physical State:**

Solid.

Color:

See "Product Name" in Section I of this MSDS.

Odor:

Slight if any.

pH:

N/A

Solubility in Water:

Negligible

Vapor Density:

N/A

Evaporation Rate:

Not determined

Specific Gravity:

1.44

V.O.C.

0.0 Lbs./G1. less water and exempt solvent; 0 grams/liter; 0.0 Lbs./G1. w/w

The VOC content is determined by using a percent solids basis, less water and exempt solvents, for adhesives, coatings and inks and the calculations of EPA Reference Method 24 or equivalent ASTM method approved by the executive office.

Initial Boiling Point

N/A

Initial Freezing Point

N/A

X. STABILITY AND REACTIVITY**Stability Information:**

Stable under normal conditions.

Conditions to Avoid:

Contamination., Contact with water, Elevated temperatures. None known unless listed here.

Chemical Incompatibility:

Strong oxidizing agents, Acids, Caustics (bases), Chlorine, Strong acids, Strong alkalis, Water, Moisture.

Hazardous Decomposition Products:

Carbon dioxide, Carbon monoxide, Sulfur containing gases, Aldehydes, Nitrogen containing gases, Metal fumes, Hydrogen.

XI. TOXICOLOGICAL INFORMATION

Chemical Name	LD50/LC50
s-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(2,3-epoxypropyl)-	Oral LD50 Rat: 188 mg/kg
Carbon black	Oral LD50 Rat: >15400 mg/kg; Dermal LD50 Rabbit: >3 gm/kg

XII. ECOLOGICAL INFORMATION**Overview :**

Care should be taken to minimize releases of any industrial chemicals to the environment.

XIII. DISPOSAL CONSIDERATIONS**Waste Description for Spent Product:**

Spent or discarded material is not expected to be a hazardous waste.

Disposal Methods:

Information in this MSDS is provided only as a guide. Consult with competent authority to determine proper waste disposal procedures. Clean up and dispose of waste and clean-up materials in accordance with all federal, state, and local environmental regulations.

Potential EPA Waste Codes:

Not determined.

Some Components Possibly Subjected to USEPA Land Disposal Restrictions:

When disposing of unused products or any waste, the preferred options are to send to a licensed reclaimer or to permitted incinerators. There may be some other ingredients subject to LDR categories.

Zinc

7440-66-6

XIV. TRANSPORTATION INFORMATION**Agency Basic Description and Label**

DOT DOT & IATA: NOT REGULATED

Hazardous Substance

None expected.

XV. REGULATORY INFORMATION**Regulation**

SARA 313 Reportable : Copper, Zinc

TSCA Inventory :

All components of this product are listed in, or exempt from, the TSCA 8(b) Inventory.

California Proposition 65 :

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65: "WARNING: This product contains chemical(s) known to the State of California to cause cancer."

SARA/CERCLA Section 302 :

N/A

XVI. ADDITIONAL INFORMATION

Major References: VENDOR'S MSDS's, PAINT & COATINGS HANDBOOK, EPA'S LIST OF LISTS, AND OTHER PUBLISHED MATERIALS.

IMPORTANT: WHILE THE DESCRIPTIONS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, THEY ARE PROVIDED FOR YOUR GUIDANCE ONLY. MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION OR USE, INCLUDING USE OF THIS MATERIAL IN COMBINATION WITH OTHER MATERIALS OR PROCESSES. YOU THEREFORE SHOULD, AND THIS MATERIAL IS SUPPLIED ON THE CONDITION THAT YOU, PERFORM AN ASSESSMENT TO DETERMINE THE SUITABILITY OF THE MATERIAL PRIOR TO USE, AND YOU ACCEPT RESPONSIBILITY FOR SATISFYING YOURSELF THAT THE MATERIAL IS SUITABLE AND THE COMPLETENESS OF THIS INFORMATION IS SUFFICIENT FOR YOUR USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED, DATA, OR INFORMATION SET FORTH. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, OR DATA PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE, AND WE DISCLAIM LIABILITY FOR LOSS OR INJURY ARISING FROM YOUR USE OF THIS MATERIAL, DATA OR INFORMATION. FURTHER, THE DESCRIPTIONS, DATA AND INFORMATION FURNISHED HERE ARE GIVEN GRATIS. NO OBLIGATIONS NOR LIABILITIES FOR THE DESCRIPTION, DATA AND INFORMATION GIVEN ARE ASSUMED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.